National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB ID: LAX00MA273	Aircraft Registration Number: N510TG
Occurrence Date: 07/21/2000	Most Critical Injury: Fatal
Occurrence Type: Accident	Investigated By: NTSB

Location/Time

Nearest City/Place	State	Zip Code	Local Time	Time Zone	
KAHULUI, MAUI	HI	96732	1020	HST	

Airport Proximity: Off Airport/Airstrip

Distance From Landing Facility:

Aircraft Information Summary

Aircraft Manufacturer	Model/Series	Type of Aircraft
Aerospatiale	AS 355F1/AS 355F1	Helicopter

Revenue Sightseeing Flight: Yes

Air Medical Transport Flight: No

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

1.1 HISTORY OF FLIGHT

On July 21, 2000, about 1020 Hawaiian standard time, an Aerospatiale AS 355F1, N510TG, collided with mountainous terrain while descending in the Iao Valley, about 8.7 nautical miles (nm) miles west-southwest of the Kahului Airport, on the island of Maui, Hawaii. The helicopter was operated by Helicopter Consultants of Maui, Inc., d.b.a. Blue Hawaiian Helicopters. A company visual flight rules (VFR) flight plan was filed for the planned 30-minute-long tour flight that was operated under the provisions of 14 CFR Part 135. Instrument meteorological conditions prevailed in the vicinity of the accident site. The helicopter was destroyed by impact forces and a postimpact ground fire. The commercial pilot and six passengers were fatally injured. The purpose of the flight was to provide the passengers with a sightseeing tour of the northwest portion of the island of Maui. The flight originated from a heliport on the Kahului Airport at 0955.

According to management personnel at Blue Hawaiian Helicopters (BHH), the established tour route involved circling mountains located in the western portion of the island. The operator's tour literature advertises that the tour would provide the fare-paying passengers with views of deep valleys, knife-edged ridges, mist-shrouded peaks, waterfalls cascading down towering cliffs, and a rainforest.

About 0959, after the pilot's takeoff and departure from the airport vicinity, the Federal Aviation Administration (FAA) local air traffic controller advised the pilot that radar services were terminated. The pilot acknowledged the controller and proceeded flying on the tour. Contrary to instructions, the pilot did not reset the helicopter's transponder from its assigned code to the code for flying under visual flight rules (VFR). There were no further recorded radio transmissions to or from the accident pilot.

The majority of the helicopter's flight and altitude tracks were recorded by radar. The National Transportation Safety Board's Vehicle Performance Division performed a "Recorded Radar Study" in which it examined radar data and provided graphs depicting the helicopter's flight route in relation to the surrounding terrain. As evidenced from the radar beacon data, upon departing Kahului, the helicopter proceeded in a counterclockwise direction circumnavigating the western Maui Mountains. Near the completion of the tour flight, the helicopter was cruising in an easterly direction toward the Iao Valley.

About 1018:29, while at 3,400 feet (as evidenced by altitude transmissions from the helicopter's Mode C equipped transponder), the helicopter turned northward, flew over a ridgeline and entered the Iao Valley. By about 1019:34, the helicopter had flown approximately 1 mile northward into the valley while climbing to at least 3,900 feet. The radar data further indicates that the helicopter then reversed direction and commenced a descent while proceeding along a southerly course. At 1019:44, the helicopter had descended to 3,600 feet, and at 1019:58, it was at 3,400 feet.

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The helicopter's last recorded radar position (utilizing beacon target data) occurred at 1020:03. At this time the helicopter had descended to 3,000 feet. By the time of the next radar sweep approximately 5 seconds later, the target had disappeared. The accident site was located about 2,850 feet mean sea level (msl), approximately 1/8 mile southeast of its last recorded radar position.

According to BHH's owner, he has an intimate knowledge of the general area where the accident site is located, having flown in or near the vicinity on numerous occasions. The owner indicated that, although alternate routes are available for the accident pilot to have utilized en route back to Kahului, the pilot's choice of transitioning from the Oluwalu valley into the Iao Valley was the "preferred route" as "it is very majestic as well as a more direct" route through the mountains.

A search for the overdue helicopter was initiated when it had not returned to the Kahului Airport within 10 minutes of its planned landing time. According to BHH's chief pilot, the air search in the vicinity of the helicopter's last recorded position on radar was initially hampered due to the presence of the low elevation layer of clouds that obscured the mountainsides. The accident site was located approximately 1503, near the southwestern portion of the Iao Valley.

1.2 PILOT INFORMATION

1.2.1 FAA Certificates Held and Flying Experience.

The pilot held a commercial pilot certificate with a rotorcraft helicopter rating. He also possessed a certified flight instructor certificate for rotorcraft; however, it expired in 1974. On February 29, 2000, the pilot was issued a second-class aviation medical certificate with the following restrictions: "must wear lenses for distant vision and possess glasses for near vision." On the medical certificate application form the pilot reported that his total pilot time was over 12,500 hours.

According to BHH, by the accident date, the pilot's total flight time was approximately 12,650 hours, of which 12,500 hours were as pilot-in-command. All of the pilot's flight time was acquired flying rotorcraft.

During the 90- and 30-day periods that preceded the accident, the pilot had flown for 231.4 and 82.0 hours, respectively. The pilot's total flying experience in the accident model of helicopter was 55.8 hours. Also, during the 90- and 30-day periods that preceded the accident, the pilot had flown the accident model of helicopter for 25.6 and 4.9 hours, respectively. No instrument flying experience was recorded during the previous 90-day period.

The pilot did not hold an instrument rating. Regarding his instrument flying experience, BHH reported that the pilot's total actual and simulated experience was 1.0 and 4.0 hours, respectively. In 1996 Board documents indicated that the pilot's total actual and simulated experience was 0 and 20 hours, respectively.

A review of the pilot's aviation medical records maintained by the FAA indicates that in June 1996, he reported his total civilian pilot time to date was 8,000 hours, and during the past 6 months he had flown 20 hours. In July 1997, his pilot time was reported at 10,000 hours, and during the past 6 months he had flown 150 hours.

In February 1998, he also reported his pilot time at 10,000 hours, and he indicated having flown 50 hours during the past 6 months. One year later, in February 1999, the pilot reported his pilot time at 11,500 hours, and indicated he had flown 50 hours during the past 6 months. On the pilot's last medical certificate application form he indicated having over 12,500 hours of flying

Narrative (Continued)

experience. He indicated that he had flown over 500 hours during the past 6 months.

The pilot's personal flight record logbook was not provided to Safety Board investigators for examination.

1.2.2 Preemployment Clearance and Hiring.

BHH hired the pilot in April 1999. According to the Pilot Records Improvement Act of 1996, before hiring an applicant as a pilot, air taxi operators must request and receive records from any company who employed the pilot during the past 5 years. The records address such items as the pilot's history of drug and alcohol testing, completion of training due to poor performance, removal from flying status for any performance or professional competency reason, and disciplinary action. The requisite records were not received from Briles Wing & Helicopter, Inc., the company at which the pilot had worked immediately prior to being hired by BHH.

BHH's chief pilot reported to the Safety Board investigator that one of its pilots had known the prospective employee for 22 years and was "very familiar" with the applicant's experience. Had BHH an indication that the applicant's background was "unfavorable" he would not have been hired.

1.2.3 Accident, Violation, and Driving History Review (Past 5 Years).

Safety Board accident records indicate that on August 4, 1996, the pilot was involved in a midair collision while flying a helicopter during a 14 CFR Part 135 flight with passengers. In pertinent part, the Safety Board's probable cause of the accident was related to the pilot's inadequate visual lookout.

The FAA conducted an investigation and sanctioned the pilot for (1) his careless or reckless operation of the helicopter in such manner so as to endanger the life or property of another, and (2) his failure to maintain vigilance in the operation of the helicopter so as to see and avoid the other aircraft. The folloiwng year, the pilot was sanctioned for operation of a helicopter on a 14 CFR Part 135 flight with an expired Second Class medical certificate.

A review of motor vehicle driving records in the states of Hawaii and California was performed. No evidence of accidents was noted. No violation history was noted in Hawaii. According to the State of California Department of Motor Vehicles in October 1998, and in March 1999, the pilot was convicted of vehicle code violations for driving upon a highway at a speed greater than is reasonable or prudent.

1.2.4 Currency and Inadvertent Flight into Instrument Meteorological Condition (IMC) Procedures.

BHH's management reported that it instructs and examines its pilot on their ability to operate the helicopter under simulated IMC. The company's FAA Operations Specification requires that it have an approved inadvertent IMC procedure in its training program, and that the accident pilot complete yearly training on the emergency procedures.

On April 4, 2000, the pilot received 0.2 hours of flight training in the approved procedures to escape from an inadvertent entry into IMC. According to BHH's FAA accepted training program, while wearing an instrument hood the pilot was trained to perform the following maneuvers: (A) straight and level flight; (B) 180-degree climbing turns, left and right; and (C) recovery from unusual attitudes. The pilot satisfactorily completed the requisite training.

The pilot's last required FAR Part 135 pilot competency/proficiency flight check was accomplished on April 14, 2000. BHH's chief pilot conducted the examination. The indicated flight duration was 0.6 hours and the results were noted as satisfactory.

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According to the chief pilot, during the check flight the accident pilot's instrument flying procedures were examined. The pilot was instructed to adhere to the company policy that specified upon entering IMC, he should "check the gyros, slow down and make a level 180-degree turn." Following completion of the course reversal turn, the pilot was permitted to climb or descend, depending on situational requirements.

1.2.5 Required Rest and 48-Hour Activities.

The FAA reported that a review of the BHH's flight time limitations and rest requirements for the pilot revealed no irregularities. They conformed to requirements.

Regarding the pilot's activities during the 48 hours prior to the accident, July 19 was his scheduled day off from work, and the pilot did not work at BHH. The pilot's wife reported that her husband awoke about 0700, and throughout the day was engaged in the performance of duties around their home. In the evening they went on a picnic with neighbors, and they retired about 2200.

On July 20, the pilot awoke at 0615, and arrived at work at 0715. During the day he performed seven tour flights for a total of about 6 hours of flight time. He completed the last tour flight at 1710. The pilot's wife reported that she picked up her husband from work because he was still having mechanical problems with his motorcycle. They drove home, ate dinner, and retired between 2130 and 2200.

On July 21 they awoke at 0515, and departed home at 0540. She drove her husband to work, arriving about 0615. (BHH's records indicated the pilot arrived at 0610.) The pilot's first flight of the day was an operational test flight resulting from previous maintenance (not in the accident helicopter). The pilot departed on this "Ops" flight at 0735 and landed at 0800. The pilot's first tour flight was scheduled to depart at 0815. However, the flight did not depart until 0839. The pilot completed the tour at 0944. The next tour (accident flight) was scheduled to depart at 0930, but it did not depart for another 24 minutes.

1.3 HELICOPTER INFORMATION

The helicopter was manufactured in 1982. BHH maintained the helicopter under an annual/100-hour (manufacturer's) inspection program, with the last 100-hour inspection accomplished 52.7 hours prior to the accident. The helicopter had accumulated a total flight time of 8,384 hours.

The FAA authorized BHH to only operate the helicopter under day and night visual flight rules. In pertinent part, the helicopter was equipped with a magnetic compass, a turn and bank indicator, a directional gyroscope, and an attitude indicator (artificial horizon).

The last recorded pitot-static, altimeter and transponder inspections were accomplished on November 16, 1998. A review of the helicopter's historical maintenance files, and BHH's maintenance records, did not reveal evidence of any mechanical irregularities, squawks, or open maintenance items germane to the accident flight.

1.3.2 Weight and Fuel Reserve Computation.

According to BHH's dispatch documents, the helicopter's gross weight was 5,291 pounds. At the time of departure the helicopter weighed 4,639 pounds. The fuel load was listed for takeoff and landing at 303 and 121 pounds, respectively.

Safety Board investigator calculations indicate that the 182 pounds of fuel burn off during the planned 30-minute flight equals a burn off rate of 364 pounds per hour. At this consumption rate, upon landing the fuel reserve would be 20 minutes, which is in accordance with FAA mandated fuel supply requirements for helicopter operations.

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1.4 METEOROLOGICAL INFORMATION

1.4.1 Weather Briefing and FAA Requirements.

The pilot's wife indicated that on the morning of the accident, her husband did not use a computer to check the weather conditions prior to departing for work. According to BHH's other pilots, when they received their morning weather briefings the accident pilot was not nearby, and they cannot verify that he received the briefing information. According to the FAA's air traffic manager at the Honolulu Flight Service Station, the facility did not have any communications with the accident pilot during the morning of July 21.

BHH's FAA approved operations specifications state, in pertinent part, that "for local flights...the Pilot in Command will contact Honolulu Flight Service Station to obtain weather data prior to the first flight of the day...." In addition, "the Pilot in Command must obtain current and forecast weather information along the route and for the destination."

1.4.2 Weather Reports and Forecasts.

The accident site is located on a mountainside near the western portion of the Iao Valley, which has the anecdotal reputation for being the second wettest location on earth in terms of rainfall. Maui residents report that the weather conditions frequently change with respect to cloud formation and the elevation of the cloud bases and tops.

BHH's owner reported that at Maui's latitude, the trade wind direction is principally from the northeast. As moisture-laden air encounters the northeast shore of the island and ascends over the mountainous regions, the weather conditions can change dramatically within a few minutes.

A Safety Board meteorologist investigated the meteorological conditions that prevailed at the time of the accident. The following area forecast and terminal weather conditions were noted:

1. A modest easterly airflow was depicted over the area with diminishing and brief trade showers, typical for the region. No Airmen's Meteorological Information (AIRMET) was in effect for flights over the area.

2. The National Weather Service synoptic discussion indicated that a new shower area was arriving over the windward (northeast) side of Maui.

3. Scattered clouds were forecast over the windward section of mountains with bases at 2,000 feet; scattered to broken clouds at 4,500 feet with tops at 8,000 feet. (All height references are mean sea level.)

4. The closest aviation weather reporting facility to the accident site is located at the Kahului Airport, elevation 54 feet. The airport is on the windward side of Maui, about 9 nautical miles and 069 degrees from the accident site.

At 0954, the airport reported its surface wind was from 050 degrees at 14 knots, with gusts to 24 knots. There were few clouds at 2,800 feet, and a broken ceiling at 3,800 feet. The visibility was 10 miles, and the altimeter was 30.06 inHg.

At 1054, the airport reported its surface wind was from 040 degrees at 23 knots, with gusts to 29 knots. There were few clouds at 2,000 feet, and scattered clouds at 3,800 feet. The visibility was 10 miles, and the altimeter was 30.05 inHg.

The Safety Board Meteorological Factual Report contains additional information including data based

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upon visible and infrared imagery from satellites, Doppler weather radar, and pilot reports.

1.4.3 Ground-Based Weather Witnesses.

BHH's reservation personnel are located in a room that overlooks the airport ramp area and the eastern portion of the Iao Valley. They reported to Safety Board investigators that the weather was clear about an hour prior to the accident.

Later during the morning clouds were noted in the area, but no flights were being cancelled due to inclement weather conditions. When the search had begun for the overdue tour flight, the elevation of the clouds had lowered and the search pilots were unable to proceed up the valley due to the low elevation of the clouds.

A witness in the Iao Valley State Park indicated that about 1000, he observed the Iao Needle. The witness stated he noticed that a solid ceiling of clouds stretched from one side of the valley to the other (north to south). The cloud base obscured the upper 1/4 to 1/3 of the needle. (The Iao Needle's elevation is about 2,250 feet msl, and it is located about 2 miles east of the accident site.)

1.4.4 Airborne Weather Witnesses.

At estimated times of 0950, between 1010 and 1020, and between 1029 and 1031, three tour helicopter pilots reported having flown within 2 miles south of the accident site. Pilots from these helicopters stated to Safety Board investigators that they had modified their tour routes to exclude the area flown by the accident pilot because of the weather conditions they observed in the area. Specifically, clouds obscured the Iao Valley ridgeline.

1.4.5 Videotape Evidence.

BHH's helicopters are equipped with videotape recording equipment that is used to memorialize scenic tour flights for passengers. The videotape from the accident flight was consumed in the post impact ground fire. However, the videotape from the accident pilot's earlier flight, also in the accident helicopter with six passengers, was obtained from BHH. This tape shows the pilot's tour flight from approximately 0839 to 0944, including its passage within 2 or 3 miles of the accident site.

The videotape shows, in pertinent part, that approximately 10 minutes prior to the end of the flight, the pilot announces to his passengers that they are flying into the Launiupoko Valley. (This valley leads into the Olowalu Valley.) At times, the helicopter appears to be cruising at the same elevation as the base of the clouds. Occasionally, the helicopter is flying above clouds. The pilot states to the passengers, "let's see if we can make it over this ridge line." He follows this statement by remarking that he hopes it "opens up just a little bit," and then saying that he guesses they will have to go around the long way. During these statements, the helicopter's course changes. The pilot proceeds away from the higher elevation terrain and exits the valley.

BHH provided the Safety Board investigators with copies of other videotapes from tours on the morning of the accident. In summary, the tapes generally showed that there appeared to be a solid overcast cloud layer covering the entire west Maui Mountains. Also noted was the presence of clouds, which obscured the ridgeline that separates the Olowalu Valley from the Iao Valley.

1.4.6 Still Camera Evidence.

During the wreckage recovery operation, a damaged Nikon Lite-Touch Zoom 110 camera was located. The camera was found broken open with its film partially exposed. With special handling, several

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photographs were printed. In pertinent part, the pictures showed the accident helicopter prior to departure, and during a portion of the west Maui Mountain tour flight. The presence of a layer of clouds was noted covering mountaintops and obscuring ridgelines. In one picture, which showed both the helicopter's altimeter and clouds, it was noted that the base elevation of clouds was about 1,700 feet msl.

1.5 AIDS TO NAVIGATION

According to FAA records of facility operations, all electronic aids to navigation pertinent to the aircraft's route of flight were functional on the day of the accident.

1.6 COMMUNICATION

The FAA reported that all communications with the helicopter pilot were routine. No communications with the pilot occurred after he left the vicinity of Kahului.

BHH reported that three of its other helicopter pilots had provided tours over the west Maui area during the morning hours of the accident flight. Safety Board interviews with the three pilots indicated that they had been airborne while the accident pilot was flying. None had transmitted or received any communications from the accident pilot.

1.7 WRECKAGE AND IMPACT INFORMATION

Information provided from a combination of helicopter wreckage recovery personnel and Maui County Police Department officers, in conjunction with airborne observations made by Safety Board investigators, indicates the helicopter impacted estimated 45- to 60-degree upsloping terrain. The accident site is located at global positioning satellite coordinates of approximately 20 degrees 52.3 minutes north latitude by 156 degrees 34.9 minutes west longitude. This location is about 8.7 nm west-southwest (249 degrees, magnetic) from the Kahului Airport.

The collision occurred nearly perpendicular to the north face of a 2,900-foot-high mountain. The impact altitude was about 2,850 feet msl.

Based upon the appearance of the impact ground scar, the wreckage distribution path and the topography of the surrounding mountains, the helicopter's approximate impact collision angle with the terrain was estimated to be south-southeasterly.

At the initial point of impact a near horizontally oriented gouge was observed in the mountainside. The size, knife-like shape, and orientation of the gouge are geometrically and dimensionally consistent with the helicopter's main rotor blade tips. Undisturbed native vegetation was present several feet above the laceration. Ground scar, crushed vegetation, and helicopter components were noted directly below the knife-like gouge. The main wreckage was found fragmented and was located about 200 feet down slope from the gouge mark.

1.8 MEDICAL AND PATHOLOGICAL INFORMATION

1.8.1 Disclosure of Information and Drug Usage.

On the pilot's February 29, 2000, application for the second-class aviation medical certificate, he indicated that he had not visited a health professional within the last 3 years. Also, he denied using any prescription medications.

A review of the pilot's medical records on file at the Kaiser Permanente medical facility in Hawaii indicates that he had received outpatient services on September 3, 9 and 23, 1999. Also, he had received medical services at the facility on October 11 and 25, 1999, on December 14, 1999, and on

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February 14, 2000. The pilot was referred to a pulmonologist for evaluation of his chronic cough. In a December 14, 1999, consultation report, the pilot was diagnosed as having mild asthma. Several medications were prescribed and dispensed to the pilot. Pharmacy records indicate that these drugs were dispensed to the pilot.

The pilot's wife reported that when her husband flew, he kept a prescription medication called Flonase with him in his fanny pack. He also smoked cigarettes when in a social setting.

1.8.2 Physical and Mental Status.

BHH's director of operations described the pilot as being "easy going, not high strung, and easy to get along with." He reported that during the morning of the accident flight he had spoken with the pilot for 2 to 3 minutes. The pilot appeared "happy, content, and prepared to go to work." His demeanor was business-like and "typically friendly." The director of operations further indicated that, in part, the pilot's motivation for giving a successful tour flight was related to the gratification he experienced by satisfying customers.

The pilot's wife stated that her husband had telephoned her following his first flight, which was an operational test flight (not in the accident helicopter). The pilot indicated that during the flight he had found a problem with the helicopter. He was concerned about being rushed for his upcoming tour flight, and he made a complaint about the presence of clouds.

1.8.3 Autopsy and Toxicology.

On July 24, 2000, an autopsy on the pilot was performed under the authority of the Maui Police Department in Wailuku, Maui, Hawaii.

Toxicological testing performed on the pilot by the FAA's Civil Aeromedical Institute, Oklahoma City, Oklahoma, revealed acetaldehyde in kidney and muscle specimens at levels of 10 mg/dL and 2 mg/dL, respectively. N-butanol was detected in muscle at a level of 1 mg/dL. Ethanol was detected in kidney and muscle specimens at levels of 18 mg/dL and 20 mg/dL, respectively.

According to the manager of the FAA's Toxicology and Accident Research Laboratory, the ethanol found in this case may potentially be from postmortem ethanol formation and not from its ingestion. The toxicological test results were negative for all other screened drugs.

1.9 TESTS AND RESEARCH

1.9.1 Airframe, Instruments and Component Part Examination.

A post accident fire consumed instruments and portions of the helicopter structure. Several components were recovered from areas of dense brush outside of the principal impact and burn area. The majority of the structure, including the cockpit and the main rotor systems, was recovered.

The fuselage, including the cabin section, was found symmetrically crushed aft, with the crush lines approximately vertical to the longitudinal axis of the helicopter. The left and right skid tubes were found broken off forward of the cross tube. Soil was noted packed into the ends of both tubes. The forward cross tube was located buried in the soil at the initial point of impact. The entire main rotor head and gearbox sustained fire damage. The continuity of the complete flight control system could not be established due to the severity of the impact and fire damage.

Components that were not recovered included the left- and right-hand input drive shafts to the combining gearboxes, the front skid toes, the throttle quadrant, the transmission box beam, the fuel shutoff control and the mast antivibrator cover.

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The attitude indicator was recovered in a damaged condition. The indicator's display was observed deformed and depicted a near level pitch and bank attitude. The face of the damaged altimeter was recovered with broken indicator needles. The Kollsman window was indicating 30.04 inHg. The dual NG gauge was found with the glass covering the instrument face missing. The No. 1 engine needle indicated 71 percent NG. The No. 2 engine needle was at 67 percent NG.

For additional details of the airframe examination, see the attached participant report from the American Eurocopter Corporation.

1.9.2 Engine Examination.

The fire damaged engines were recovered from the accident site and a partial teardown examination was performed. In summary, the technical representative from the engine manufacturer reported the following: (1) the damage to the spur adapter gear shafts and the turbine to compressor couplings, on both engines, indicates that the N1 rotor systems were rotating at the time of impact; (2) The damage to the power turbine couplings, on both engines, indicates that the N2 rotor systems were rotating at the time of impact; and (3) The rubbing on the 3rd stage turbine vanes on engine number 1 and the aluminum splatter on the 3rd stage vanes of engine number 2 indicate engine operation at impact. No evidence of any preimpact mechanical failures was noted on either engine.

For additional details of the engine examinations, see the attached participant report from Rolls-Royce.

1.9.3 Flight Track Examination.

An examination of the helicopter's flight track and altitude profile was performed using recorded radar data. Based upon all recorded radar hits, between 1018:50 and 1018:59, the helicopter's Mode C transponder altitude changed from approximately 3,600 to 3,800 feet. (One data set showed the altitude increased from 3,600 to 3,700 feet, while another data set showed the altitude increased from 3,700 to 3,800 feet.)

During this time interval, a progression of radar hits occurred in a north-northeasterly direction. Overlaying the track plot onto a topographic map reveals that, during this time, the helicopter was flying over the Iao Valley ridgeline and was entering the Iao Valley.

The topographic map shows that the ridgeline's peak elevation varied. In the vicinity of the over-flight, the ridge's elevation ranged from approximately 3,400 or 3,500 feet to 3,800 feet.

1.10 ADDITIONAL INFORMATION

1.10.1 Flight Regulations.

The FAA has published special operating rules for air tour operators in the State of Hawaii. In pertinent part the rules, known as "Special Federal Aviation Regulation" (SFAR) 71, are applicable to pilots conducting sightseeing flights for hire.

Following its review of BHH's operation including its pilot training program and helicopters, the FAA authorized BHH to permit the accident pilot to perform tour flights. The pilot was, in specific locations/altitudes, authorized to fly clear of clouds so long as flight visibility was at least 3 miles. In addition, he was required to generally maintain 1,000 feet above the terrain while flying over designated transitions (route segments), and never fly less than 500 feet from terrain while in specific locations referred to as site-specific areas. Transitions routes are designated 1-mile-wide courses that lead to or from the site-specific (scenic) areas.

Accordingly, as the pilot passed over the ridgeline and entered the site-specific area of the Iao

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Valley, he was not allowed to fly closer than 500-feet from the terrain. At all times during the flight, the pilot was required to maintain 3 miles visibility and fly clear of all clouds.

1.10.2 Inadvertent IMC Curriculum.

BHH's management reported that although no exact procedure was specified in its FAA accepted operations training manual for inadvertent IMC encounters, it had instructed the accident pilot to follow the company's established procedures.

1.10.3 Company History and Size.

The owner of BHH commenced flying tours over Maui in April 1985, under the FAA air carrier certificate of South Sea Helicopters, Inc. By 1987, the owner had acquired his own FAA air carrier certificate in the name of BHH. His company currently employees about 29 pilots, which include line pilots, pilot supervisors, and management-level pilots. On its certificate, the company operates about 16 Aerospatiale helicopters, including 6 AS-350-BA, 9 AS-350-B2, and 1 AS-355-F1 (the accident helicopter).

1.10.4 Flight Cancellation and Pay Policy.

BHH's policy concerning cancellations of tour flights due to weather, as indicated by its management personnel, is that there are no sanctions made against the pilot if he decides to cancel a tour because of inadequate weather conditions. Pilots receive a minimum base pay plus additional pay for flight time.

1.10.5 Wreckage Release.

The helicopter wreckage was released to the owner's assigned insurance adjuster on August 10, 2000. No parts or records were retained.

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Landing Facility/Approach Information

Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used	Runway Length	Runway Width

Runway Surface Type: Unknown

Runway Surface Condition: Unknown

Approach/Arrival Flown: NONE

VFR Approach/Landing: None

Aircraft Information

Aircraft Manufacturer	Model/Series	Serial Number
Aerospatiale	AS 355F1/AS 355F1	5168

Airworthiness Certificate(s): Normal

Landing Gear Type: Skid

Amateur Built Acft?	Number of Seats:	Certified Max Gross Wt.	Number of Engines:
No	7	5291 LBS	2

Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:
Turbo Shaft	Allison	250-C20F	420 HP

- Aircraft Inspection Information

Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time
100 Hour	07/2000	53 Hours	8384 Hours

- Emergency Locator Transmitter (ELT) Information

ELT Installed?/Type	ELT Operated?	ELT Aided in Locating Accident Site?
Yes /	No	No

Owner/Operator Information

Registered Aircraft Owner	Street Address	City	State	Zip Code
HELICOPTER CONSULTANTS OF MAUI	105 KAHULUI HELIPORT	KAHULUI	HI	96732

Operator of Aircraft	Street Address	City	State	Zip Code
HELICOPTER CONSULTANTS OF MAUI	105 KAHULUI HELIPORT	KAHULUI	HI	96732

Operator Does Business As: BLUE HAWAIIAN HELICOPTERS

Operator Designator Code: HCMA

- Type of U.S. Certificate(s) Held:

Air Carrier Operating Certificate(s): On-demand Air Taxi

Operating Certificate:

Operator Certificate:

Regulation Flight Conducted Under: Part 135: Air Taxi & Commuter

Type of Flight Operation Conducted: Unknown;Non-scheduled; Domestic; Passenger Only

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First Pilot Information

Name	City	State	Date of Birth	Age
On File	On File	On File	On File	55

Sex: M | Seat Occupied: Right | Occupational Pilot? Civilian Pilot | Certificate Number: On File

Certificate(s): Flight Instructor; Commercial

Airplane Rating(s): None

Rotorcraft/Glider/LTA: Helicopter

Instrument Rating(s): None

Instructor Rating(s): Helicopter

Current Biennial Flight Review? 04/2000

Medical Cert.: Class 2 | Medical Cert. Status: Valid Medical--w/ waivers/lim. | Date of Last Medical Exam: 02/2000

- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Night	Instrument Actual	Instrument Simulated	Rotorcraft	Glider	Lighter Than Air
Total Time	12625	56			1500	1	4	12625		
Pilot In Command(PIC)	12500	51								
Instructor										
Instruction Received										
Last 90 Days	231	26								
Last 30 Days	82	5								
Last 24 Hours	6	1								

Seatbelt Used? | Shoulder Harness Used? | Toxicology Performed? Yes | Second Pilot? No

Flight Plan/Itinerary

Type of Flight Plan Filed: Company VFR

Departure Point	State	Airport Identifier	Departure Time	Time Zone
Kahului, Maui	HI	OGG	0955	HST

Destination	State	Airport Identifier
Local Flight	HI	OGG

Type of Clearance: None

Type of Airspace: Class G

Weather Information

Source of Wx Information:

No record of briefing

National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB ID: LAX00MA273

Occurrence Date: 07/21/2000

Occurrence Type: Accident

Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
OGG	0954	HST	54 Ft. MSL	9 NM	69 Deg. Mag.

Sky/Lowest Cloud Condition: Few 2800 Ft. AGL

Condition of Light: Day

Lowest Ceiling: Broken 3800 Ft. AGL

Visibility: 10 SM

Altimeter: 30.06 "Hg

Temperature: 28 °C

Dew Point: 21 °C

Weather Conditions at Accident Site: Instrument Conditions

Wind Direction: 50

Wind Speed: 14

Wind Gusts: 24

Visibility (RVR): 0 Ft.

Visibility (RVV) 0 SM

Precip and/or Obscuration:

Accident Information

Aircraft Damage: Destroyed

Aircraft Fire: Ground

Aircraft Explosion None

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot	1				1
Second Pilot					
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers	6				6
- TOTAL ABOARD -	7				7
Other Ground	0	0	0		0
- GRAND TOTAL -	7	0	0		7

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB ID: LAX00MA273

Occurrence Date: 07/21/2000

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

WAYNE POLLACK

Additional Persons Participating in This Accident/Incident Investigation:

Eric West
Federal Aviation Administration
Washington, DC

Robert Reuland
American Eurocopter Corporation
Grand Prairie, TX

Scott Scheurich
Rolls-Royce
Indianapolis, IN